DEPARTMENT OF HEALTH & HUMAN SERVICES PUBLIC HEALTH SERVICE

Indian Health Service
Olympic District Office
4060 Wheaton Way, Suite E
Bremerton, WA 98310
(360) 792-1235

November 29, 2012

Lukas Reyes
Utilities Superintendent
8802 27th Ave NE
Tulalip, WA 98271

Dear Mr. Reyes:

The attached report contains the findings of the **Tulalip Quil Ceda wastewater (MBR) system** survey conducted on **October 23, 2012**. The survey was conducted by Karin Knopp(IHS), Jason Schneider (IHS), and Mike Cooney (Tulalip Tribes). Present during the survey were Lukas Reyes (interview portion); and field workers Jeremy and Jaret (plant, pump station, and drainfield tours).

The purpose of the survey was to assess the current mechanical condition of the community wastewater system. The MBR system is well maintained and is functioning properly. The main concern is the lack of sanitary facilities for the staff (see comments in the report).

If there are any questions or concerns regarding this letter, please contact me or Jason Schneider at the IHS Olympic District Office in Bremerton, WA at (360) 792-1235.

Sincerely,

Karin Knopp

Karin Knopp, R.S.
District Environmental Health Officer
Indian Health Service

Jason Schneider

Jason Schneider, P.E.
Tribal UIC Consultant
Indian Health Service

COPY

Liquid Waste Survey

Indian Health Service
Olympic District Office
4060 Wheaton Way, Suite E
Bremerton, WA 98310
(360) 792-1235

Tulalip CSS-Quil Ceda MBR
8802 27th Ave NE
Tulalip, WA 98271
(360) 716-5000

Survey Date: 10/23/2012
Time In: 10:00 AM
Time Out: 3:00 PM
Survey Purpose: Routine

Total # of Violations: 0
# of Critical Violations: 0
# of Repeat Critical Violations: 0
Score:

Manager:
Permit #:
Latitude / Longitude:
Estab. Type: 28 Community Liquid-waste Disposal System

Circle designated compliance status (IN, OUT, N/O, N.A) for each numbered item
In=in compliance **OUT**=not in compliance **N/A**=not applicable **N/O**=not observed

Mark "X" in appropriate box for COS and/or R
COS=corrected on-site during inspection **R**=repeat

	IN	OUT	N/A	N/O		COS	R
Technical Capacity							
1	[ ]	[ ]	[X]	[ ]	System is in compliance with EPA CWA monitoring and reporting	[ ]	[ ]
2	[X]	[ ]	[ ]	[ ]	Sampling plan with influent and effluent quality monitored and reported	[ ]	[ ]
3	[X]	[ ]	[ ]	[ ]	Volume of WW treated is recorded (daily/monthly/annually)	[ ]	[ ]
4	[X]	[ ]	[ ]	[ ]	Operator is certified at appropriate level for system	[ ]	[ ]
5	[X]	[ ]	[ ]	[ ]	System is approved and meets design standards	[ ]	[ ]
6	[X]	[ ]	[ ]	[ ]	Operation and Maintenance manuals available	[ ]	[ ]
7	[X]	[ ]	[ ]	[ ]	Preventive maintenance plan developed and followed	[ ]	[ ]
8	[X]	[ ]	[ ]	[ ]	Back-up sources available (power, pumps, trucks, etc)	[ ]	[ ]
9	[X]	[ ]	[ ]	[ ]	As-builts and site plans/maps are on hand and current	[ ]	[ ]
10	[X]	[ ]	[ ]	[ ]	PPE and safety equipment are available and used	[ ]	[ ]
11	[X]	[ ]	[ ]	[ ]	System inventory completed (spare parts, tools, equipment)	[ ]	[ ]
Managerial Capacity							
12	[X]	[ ]	[ ]	[ ]	System has a formal O&M plan or program	[ ]	[ ]
13	[X]	[ ]	[ ]	[ ]	Utility ordinance(s) in place	[ ]	[ ]
14	[X]	[ ]	[ ]	[ ]	Plans exist for the following: system security/vulnerability assessment	[ ]	[ ]
15	[X]	[ ]	[ ]	[ ]	Plans exist for the following: emergency	[ ]	[ ]
16	[X]	[ ]	[ ]	[ ]	Plans exist for the following: health and safety	[ ]	[ ]
17	[X]	[ ]	[ ]	[ ]	Plans exist for the following: other:	[ ]	[ ]
18	[X]	[ ]	[ ]	[ ]	Capital improvement plan or master plan developed	[ ]	[ ]
19	[X]	[ ]	[ ]	[ ]	Customer complaints are logged and evaluated	[ ]	[ ]
20	[X]	[ ]	[ ]	[ ]	System structure within formal organizational chart and authorities	[ ]	[ ]
21	[X]	[ ]	[ ]	[ ]	Staffing adequate and personnel descriptions exist	[ ]	[ ]
22	[X]	[ ]	[ ]	[ ]	Utility administrative staff trained in utility management	[ ]	[ ]
23	[X]	[ ]	[ ]	[ ]	Management has resource guide or knowledge of TA links	[ ]	[ ]
Financial Capacity							
24	[X]	[ ]	[ ]	[ ]	Annual operating budget prepared	[ ]	[ ]
25	[X]	[ ]	[ ]	[ ]	Budget covers expenditures, staff, training and emergencies	[ ]	[ ]
26	[X]	[ ]	[ ]	[ ]	Rate structure in place	[ ]	[ ]
27	[X]	[ ]	[ ]	[ ]	Fees collected and recorded	[ ]	[ ]
28	[X]	[ ]	[ ]	[ ]	Fee collection rate >50%	[ ]	[ ]
29	[X]	[ ]	[ ]	[ ]	System insured (self-insured or other)	[ ]	[ ]
30	[X]	[ ]	[ ]	[ ]	Business plan in place	[ ]	[ ]
Manholes And Lines							
31	[X]	[ ]	[ ]	[ ]	Manhole covers in good condition with good fit	[ ]	[ ]
32	[X]	[ ]	[ ]	[ ]	Manholes and lines protected from erosion	[ ]	[ ]
33	[X]	[ ]	[ ]	[ ]	Interior of manholes free of debris	[ ]	[ ]
34	[X]	[ ]	[ ]	[ ]	Interior of manholes shows no evidence of inflow or infiltration	[ ]	[ ]
35	[X]	[ ]	[ ]	[ ]	Flushing frequency and records adequate	[ ]	[ ]
36	[X]	[ ]	[ ]	[ ]	Precautions applied for confined space entry	[ ]	[ ]
37	[X]	[ ]	[ ]	[ ]	Valves exercised regularly	[ ]	[ ]
38	[X]	[ ]	[ ]	[ ]	Manholes, valves and lines mapped and surveyed	[ ]	[ ]
Lift Stations							
39	[ ]	[ ]	[X]	[ ]	Ventilation system functions properly and good repair	[ ]	[ ]
40	[X]	[ ]	[ ]	[ ]	Fence and gate with lock, adequate security	[ ]	[ ]
41	[X]	[ ]	[ ]	[ ]	Pumps; noise not excessive, lubricated regularly	[ ]	[ ]
42	[X]	[ ]	[ ]	[ ]	Bar screen, communitor, sump pump, valves operate regularly	[ ]	[ ]
43	[X]	[ ]	[ ]	[ ]	Alarm/warning system operational, tested	[ ]	[ ]
44	[X]	[ ]	[ ]	[ ]	Screenings properly disposed	[ ]	[ ]
45	[X]	[ ]	[ ]	[ ]	Ladders sound	[ ]	[ ]
46	[X]	[ ]	[ ]	[ ]	Probes, floats, bubble lines or transducers are operational	[ ]	[ ]
47	[X]	[ ]	[ ]	[ ]	Lights, dehumidifier, heater, heater and fan operate properly	[ ]	[ ]
48	[X]	[ ]	[ ]	[ ]	Pump (pneumatic) discharge & suction pressure adequate	[ ]	[ ]
49	[X]	[ ]	[ ]	[ ]	Pump records maintained	[ ]	[ ]
50	[X]	[ ]	[ ]	[ ]	As-built and design data available	[ ]	[ ]
Community Septic Tank System							
51	[X]	[ ]	[ ]	[ ]	No sewage evident on ground	[ ]	[ ]
52	[X]	[ ]	[ ]	[ ]	Distribution box free of debris, functioning properly	[ ]	[ ]
53	[X]	[ ]	[ ]	[ ]	Inspection ports identified, covered and in good condition	[ ]	[ ]
54	[X]	[ ]	[ ]	[ ]	Inlets and outlets functioning properly	[ ]	[ ]
55	[X]	[ ]	[ ]	[ ]	Sludge and scum levels checked annually	[ ]	[ ]
56	[X]	[ ]	[ ]	[ ]	Tanks pumped every 2 -3 years, or as needed	[ ]	[ ]

Person in Charge _____ **EHS Signature** _____

Print Name Karin Knopp

Next Survey Date: 10/23/2013
Next Survey Purpose: Routine

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COS=corrected on-site during inspection **R**=repeat

	IN	OUT	N/A	N/O		COS	R
57	[X]	[ ]	[ ]	[ ]	As-builts available	[ ]	[ ]
Waste Stabilization Pond Or Lagoon							
58	[ ]	[ ]	[X]	[ ]	Access road in good condition	[ ]	[ ]
59	[ ]	[ ]	[X]	[ ]	Fence in good condition, locked gate, warning signs posted	[ ]	[ ]
60	[ ]	[ ]	[X]	[ ]	Adequate freeboard, pond liquid at appropriate depth (>2 feet)	[ ]	[ ]
61	[ ]	[ ]	[X]	[ ]	Sludge depth measured annually or on a schedule	[ ]	[ ]
62	[ ]	[ ]	[X]	[ ]	Appearance and odor acceptable	[ ]	[ ]
63	[ ]	[ ]	[X]	[ ]	Floating material minimized	[ ]	[ ]
64	[ ]	[ ]	[X]	[ ]	Insect breeding and aquatic vegetation controlled	[ ]	[ ]
65	[ ]	[ ]	[X]	[ ]	Dikes sound; free of erosion and burrows; weeds controlled	[ ]	[ ]
66	[ ]	[ ]	[X]	[ ]	Valve boxes; marked, sound condition, covered, no debris	[ ]	[ ]
67	[ ]	[ ]	[X]	[ ]	Diversion structure free of solids, debris	[ ]	[ ]
68	[ ]	[ ]	[X]	[ ]	Chlorination maintained, chemicals available, stored properly	[ ]	[ ]
69	[ ]	[ ]	[X]	[ ]	Aerators functioning properly	[ ]	[ ]
70	[ ]	[ ]	[X]	[ ]	EPA NPDES permit if discharging	[ ]	[ ]
71	[ ]	[ ]	[X]	[ ]	As-built and design data (load, detention time, etc) available	[ ]	[ ]
Beneficial Reuse/Land Treatment Processes							
72	[ ]	[ ]	[X]	[ ]	Wastewater meets water quality standards for reuse	[ ]	[ ]
73	[ ]	[ ]	[X]	[ ]	Piping and/or applicator in good condition	[ ]	[ ]
74	[ ]	[ ]	[X]	[ ]	Minimum preapplication treatment met (sedimentation or comminution)	[ ]	[ ]
75	[ ]	[ ]	[X]	[ ]	Vegetation used to assist treatment	[ ]	[ ]
76	[ ]	[ ]	[X]	[ ]	As-built and design data available	[ ]	[ ]
Sewage Treatment Plants							
77	[X]	[ ]	[ ]	[ ]	Site secured with locks; limited access; warning signs posted	[ ]	[ ]
78	[ ]	[ ]	[X]	[ ]	EPA NPDES permit if discharging	[ ]	[ ]
79	[X]	[ ]	[ ]	[ ]	Monitoring results posted and records maintained	[ ]	[ ]
80	[X]	[ ]	[ ]	[ ]	Housekeeping is orderly, building well maintained	[ ]	[ ]
81	[X]	[ ]	[ ]	[ ]	Heating, ventilation and lighting are adequate	[ ]	[ ]
82	[X]	[ ]	[ ]	[ ]	Standby or auxiliary power available and operational	[ ]	[ ]
Mechanical Equipment/Pre-Treatment							
83	[X]	[ ]	[ ]	[ ]	Mechanical equipment in good condition, spare parts and tools on hand	[ ]	[ ]
84	[X]	[ ]	[ ]	[ ]	Electrical wiring properly maintained, outlets grounded	[ ]	[ ]
85	[X]	[ ]	[ ]	[ ]	Motors & compressors lubricated, operated per manufacturer	[ ]	[ ]
86	[X]	[ ]	[ ]	[ ]	Motor and compressor amperage within specs and noise controlled	[ ]	[ ]
87	[ ]	[ ]	[X]	[ ]	Infiltration/inflow not excessive	[ ]	[ ]
88	[X]	[ ]	[ ]	[ ]	Return process streams do not interfere with treatment	[ ]	[ ]
90	[X]	[ ]	[ ]	[ ]	Screenings properly disposed	[ ]	[ ]
Advanced Treatment Processes							
91	[X]	[ ]	[ ]	[ ]	Aeration functioning properly	[ ]	[ ]
92	[ ]	[ ]	[X]	[ ]	Solid materials settle out in primary clarifier	[ ]	[ ]
93	[ ]	[ ]	[X]	[ ]	Baffles are in place and are functioning properly	[ ]	[ ]
94	[ ]	[ ]	[X]	[ ]	Skimming process is operational	[ ]	[ ]
95	[ ]	[ ]	[X]	[ ]	Sludge and scum accumulation is controlled	[ ]	[ ]
96	[X]	[ ]	[ ]	[ ]	Solids removed and placed in another treatment process	[ ]	[ ]
97	[X]	[ ]	[ ]	[ ]	Controls are adequate and allow flexibility to optimize performance	[ ]	[ ]
98	[X]	[ ]	[ ]	[ ]	Adjustments to process and flow rates are recorded and monitored	[ ]	[ ]
99	[X]	[ ]	[ ]	[ ]	Sufficient oxygen transfer capacity is available	[ ]	[ ]
100	[X]	[ ]	[ ]	[ ]	Aeration is functioning properly	[ ]	[ ]
101	[ ]	[ ]	[X]	[ ]	Secondary clarifier provides adequate sedimentation	[ ]	[ ]
102	[X]	[ ]	[ ]	[ ]	Advanced treatment process maintained to meet effluent limit	[ ]	[ ]
103	[X]	[ ]	[ ]	[ ]	Disinfection equipment maintained and operated properly	[ ]	[ ]
104	[ ]	[ ]	[X]	[ ]	Feed rates are proportional to effluent flow	[ ]	[ ]
105	[ ]	[ ]	[X]	[ ]	Contact time is sufficient	[ ]	[ ]
106	[X]	[ ]	[ ]	[ ]	Sludge treatment process is adequate	[ ]	[ ]
107	[X]	[ ]	[ ]	[ ]	Waste is controlled	[ ]	[ ]
108	[X]	[ ]	[ ]	[ ]	Adequate facilities exist for drying, hauling, handling and disposal	[ ]	[ ]
109	[X]	[ ]	[ ]	[ ]	EPA regulatory requirements are followed	[ ]	[ ]
Laboratory							
110	[X]	[ ]	[ ]	[ ]	Monitoring equipment adequate, calibrated; procedures posted	[ ]	[ ]
111	[X]	[ ]	[ ]	[ ]	Facility in good condition, maintained, adequate space available	[ ]	[ ]
112	[X]	[ ]	[ ]	[ ]	Chemical hygiene plan in place per OSHA regulations	[ ]	[ ]
Plant Safety							
113	[ ]	[ ]	[X]	[ ]	Gas chlorination safety: warning signs posted	[ ]	[ ]
114	[ ]	[ ]	[X]	[ ]	Gas chlorination safety: lighting and fan switches outside chlorine room	[ ]	[ ]
115	[ ]	[ ]	[X]	[ ]	Gas chlorination safety: exhaust fan near floor, intake vent near	[ ]	[ ]
116	[ ]	[ ]	[X]	[ ]	Gas chlorination safety: chlorination room opens outward with panic bar	[ ]	[ ]
117	[ ]	[ ]	[X]	[ ]	Gas chlorination safety: method for chlorine leak detection (alarm, ammonium, etc)	[ ]	[ ]
118	[ ]	[ ]	[X]	[ ]	Gas chlorination safety: tanks chained to wall or otherwise secured	[ ]	[ ]
119	[ ]	[ ]	[X]	[ ]	Gas chlorination safety: tank wrench and repair kits available	[ ]	[ ]
120	[ ]	[ ]	[X]	[ ]	Gas chlorination safety: cylinder on working scale	[ ]	[ ]
121	[ ]	[ ]	[X]	[ ]	Gas chlorination safety: auto switchover and manifold for multiple cylinders	[ ]	[ ]
122	[ ]	[ ]	[X]	[ ]	Gas chlorination safety: chlorine storage area maintained > 50oF or 10oC	[ ]	[ ]

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89	[X][ ][ ][ ]	Grit removal and screening equipment are properly designed and operated	[ ][ ]		
123	[ ][ ][X][ ]	Gas chlorination safety: emergency plan and PPE such as SCBA available	[ ][ ]		

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	IN	OUT	N/A	N/O		COS	R
124	[X]	[ ]	[ ]	[ ]	Mechanical equipment protected	[ ]	[ ]
125	[X]	[ ]	[ ]	[ ]	Guard rails around tanks/basins and at elevated walkways	[ ]	[ ]
126	[X]	[ ]	[ ]	[ ]	Fire protection adequate, including ABC type extinguisher	[ ]	[ ]
127	[X]	[ ]	[ ]	[ ]	Potable water protected by backflow device	[ ]	[ ]

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General Comments

1) As the first MBR plant (June 2003) in this region of Indian Country, your staff have assumed a leadership role in identifying and solving challenges to this technology, which they continue to excel at with participation in the IHS/EPA MBR study which is designed to catalogue information from a sample of MBR plants and share operational improvements with all MBR operators.

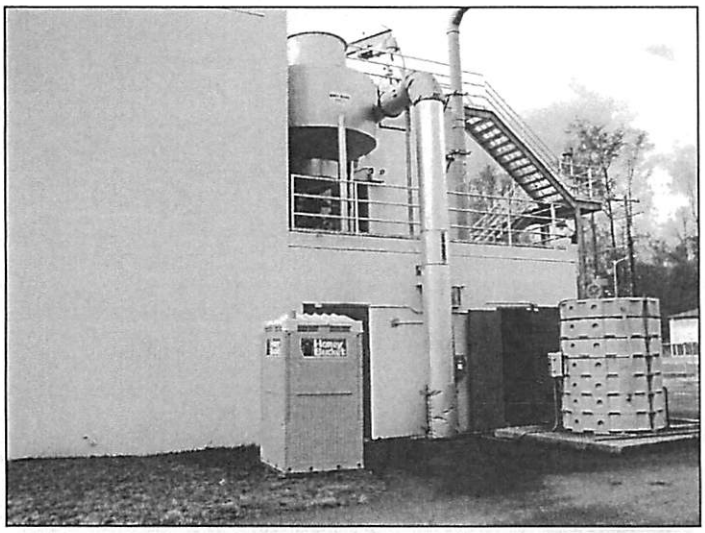
2) The emergency eye wash in the chlorine room is not in working order, posing a greater risk of injury to operators in the case of chemical splash. (OSHA 1910.151(c)). See picture 2.

3) Mr. Reyes certification as a wastewater operator with Native American Water Association and his interest in increasing his proficiency level is exemplary.

4) This facility has one portable toilet, but lacks lockers, showers, washer dryer, and hand wash sinks. This is a hinderance to operator hygiene. These facilities not only help to protect the operators health, but can increase their effectiveness in that they aren't required to leave in instances where their clothing has become soiled. Similar MBR plants that are of more recent construction have included all of these facilities. As a further recommendation, these facilities should be available for both genders. (OSHA 1910.141(d-f). See picture 1.

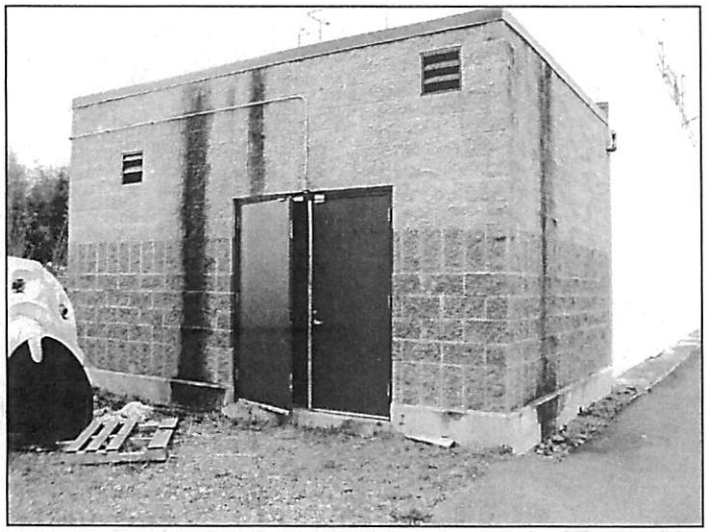
5) Recommend additional placards to identify the sodium hypochlorite room (within the Effluent building) for operator and emergency responder safety. It is recommended to use both placard examples shown at the end of this report. When ordering these placards, use the term "sodium hypochlorite" indicating the liquid form of chlorine. The term "chlorine" describes chlorine gas. See picture 3.

Appendix



Picture 1

Picture 2

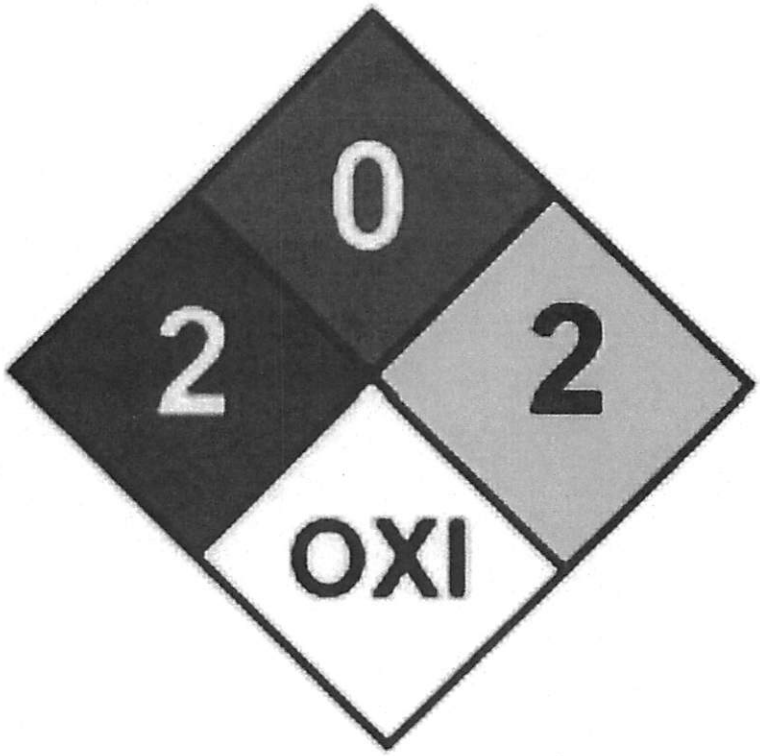


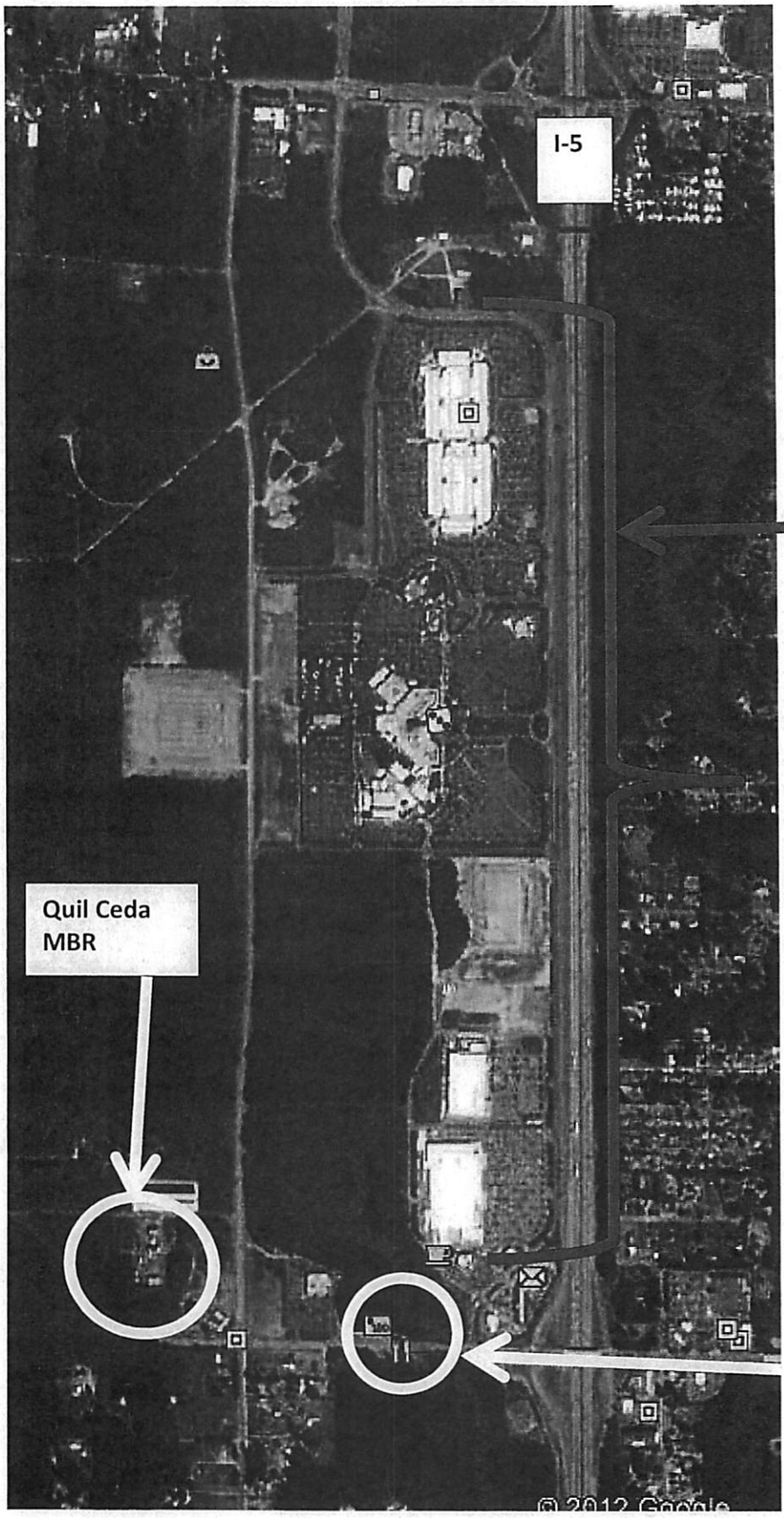
Picture 3

CAUTION

SODIUM HYPOCHLORITE
HAZARD AREA

CAUSES BURNS, EYE DAMAGE, AND
FATAL IF INHALED OR INGESTED
WEAR PROTECTIVE EQUIPMENT

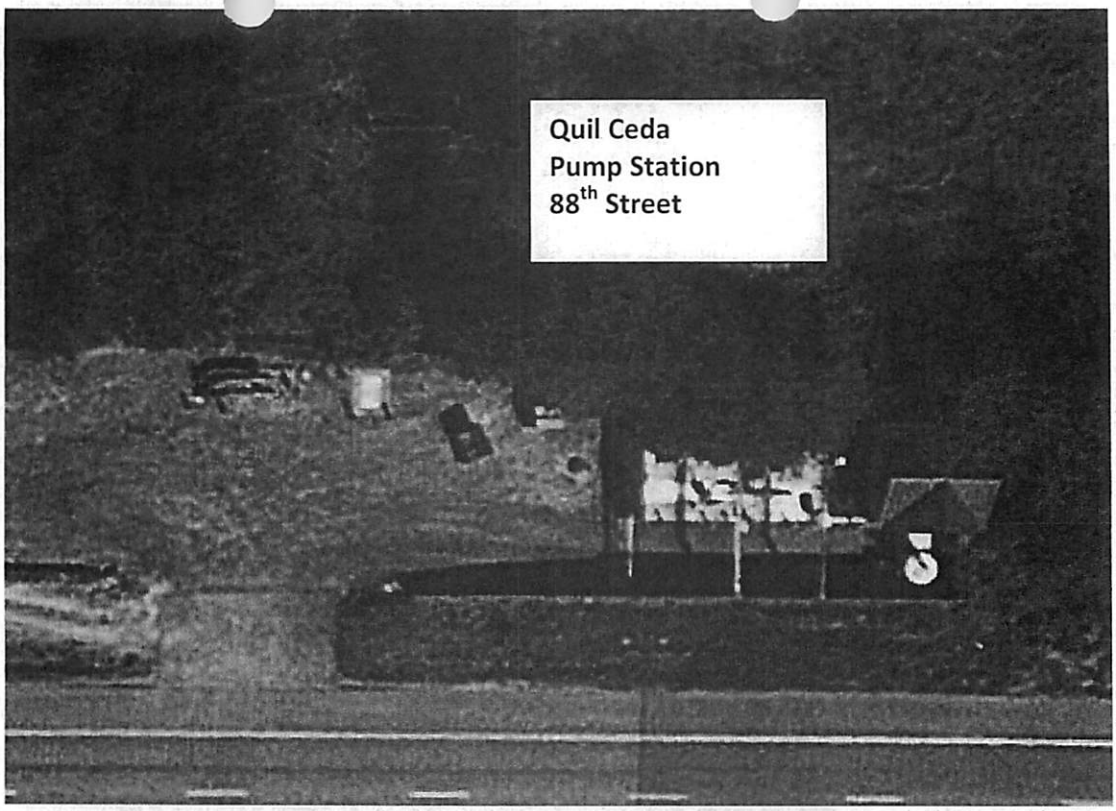


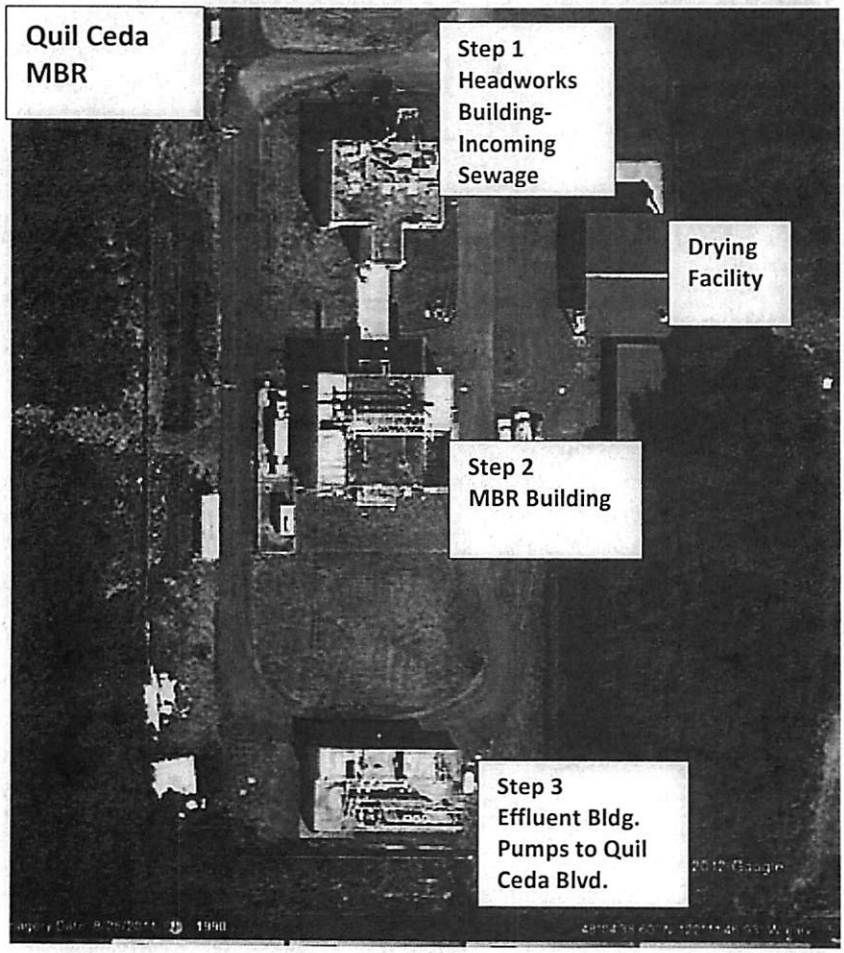


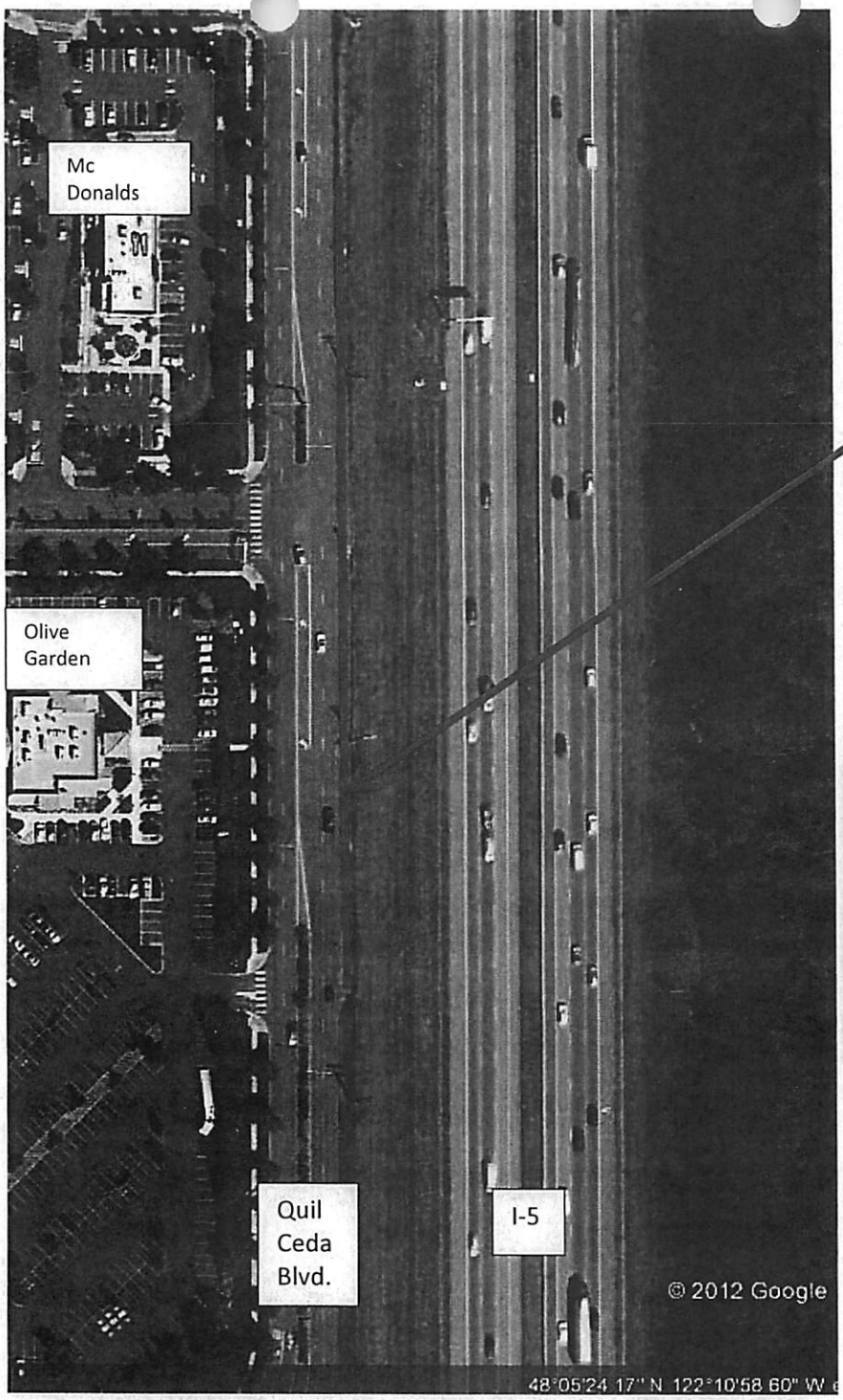
Quil Ceda Village Sewage

1) All Sewage gravity flows to pump station on 88th.
2) From 88th, pumped to MBR Plant where it gravity flows through the 3 buildings
3) From MBR, pumped down 99th street to the UIC drainfield pipes that parallel Interstate 5.

Quil Ceda Pump Station 88th Street


Quil Ceda
Pump Station
88th Street


Quil Ceda
MBR
Step 1
Headworks
Building-
Incoming
Sewage
Drying
Facility
Step 2
MBR Building
Step 3
Effluent Bldg.
Pumps to Quil
Ceda Blvd.



Here is a small portion of the Quil Ceda sewage effluent drainage area.

It comes from the MBR plant and runs along I-5 underneath rocks.

You can see the area as you drive down Quil Ceda Blvd.